

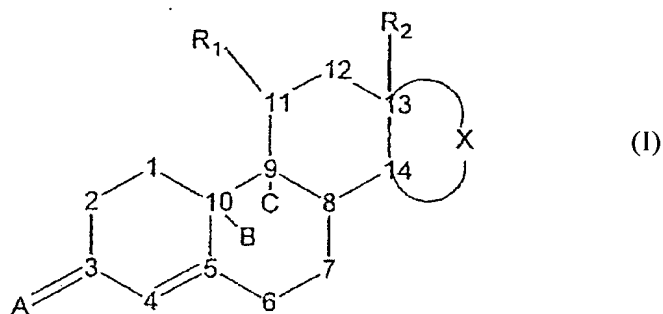
**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:****CLAIMS**

Claims 1-15 (Cancelled).

16. (New) A method of modulating a Hedgehog protein signaling pathway in a mammal, which comprises administering to the mammal an effective amount of one or more compounds of the formula (I):

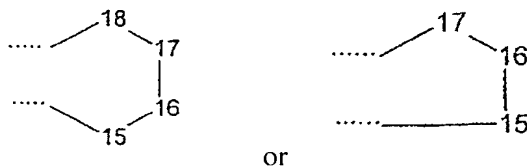


in which:

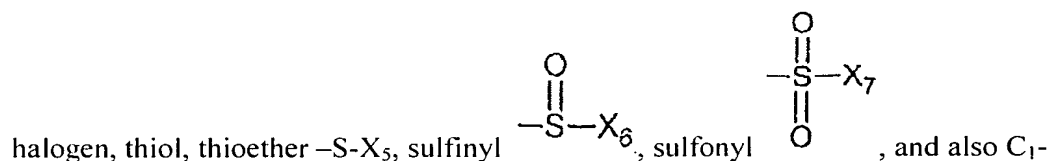
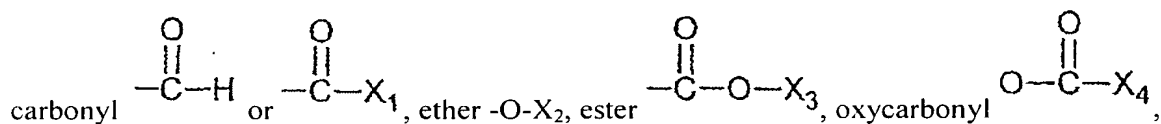
$R_1$  represents an organic radical containing from 1 to 18 carbon atoms, containing at least one nitrogen, phosphorus or silicon atom, the atom immediately adjacent to carbon 11 being a carbon atom,

$R_2$  represents a hydrocarbon-based radical containing from 1 to 8 carbon atoms,

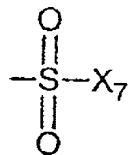
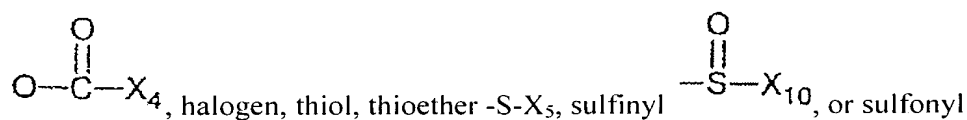
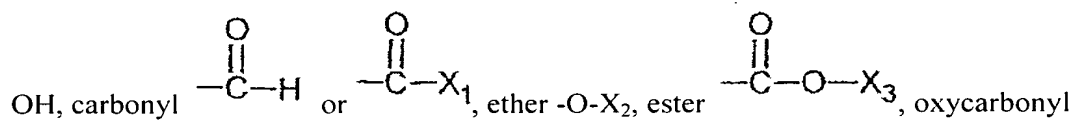
$X$  represents:



a residue of a saturated or unsaturated, pentagonal or hexagonal ring optionally substituted with one or more groups selected from the group consisting of the following radicals: C<sub>1</sub>- C<sub>12</sub> alkyl, alkenyl, alkynyl, aryl or aralkyl, hydroxyl -OH,



C<sub>12</sub> alkyl, alkenyl, alkynyl, aryl or aralkyl substituted with one or more hydroxyl -

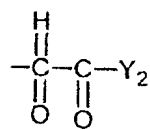


functions, wherein X<sub>1</sub>, X<sub>2</sub>, X<sub>3</sub>, X<sub>4</sub>, X<sub>5</sub>, X<sub>6</sub> and X<sub>7</sub> each independently

represents C<sub>1</sub>-C<sub>8</sub> alkyl, C<sub>2</sub>-C<sub>8</sub> alkenyl or C<sub>2</sub>-C<sub>8</sub> alkynyl groups, or C<sub>6</sub>-C<sub>15</sub> aryl or

C<sub>6</sub>-C<sub>15</sub> aralkyl groups,

the group C=A in the 3-position represents an oxo group, which is free or blocked in the form of a ketal, an alcohol -CH-OH, ether -CH-O-Y<sub>1</sub>, alkyl carboxylate



, C=NOH or C=NO-Y<sub>3</sub> group, or a CH<sub>2</sub> group, Y<sub>1</sub>, Y<sub>2</sub> and Y<sub>3</sub> representing

an alkyl radical containing from 1 to 8 carbon atoms or an aralkyl group containing from 7 to 15 carbon atoms, and

B and C together form a double bond or an epoxide bridge, or a salt thereof.

17. (New) The method of Claim 16, wherein  $R_2$  represents a linear or branched, saturated alkyl radical containing from 1 to 4 carbon atoms.

18. (New) The method of Claim 17, wherein  $R_2$  is methyl.

19. (New) The method of Claim 16, wherein X represents an optionally substituted pentagonal ring.

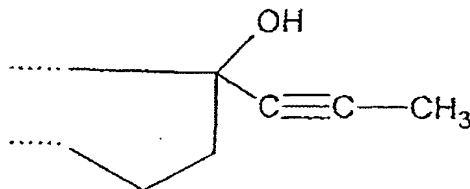
20. (New) The method of Claim 16, wherein the pentagonal ring is substituted with at least one alkenyl or alkynyl group.

21. (New) The method of Claim 20, wherein the pentagonal ring is substituted with an alkynyl group.

22. (New) The method of Claim 21, wherein the alkynyl group is in the 17-position.

23. (New) The method of Claim 16, wherein the pentagonal ring is further substituted with at least one hydroxyl group.

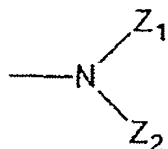
24. (New) The method of Claim 16, wherein X represents a residue of a pentagonal ring of the formula:



25. (New) The method of Claim 16, wherein R<sub>1</sub> represents a hydrocarbon-based radical containing from 1 to 18 carbon atoms and containing at least one nitrogen atom, selected from the group consisting of:

R<sub>1</sub> which represents a primary, secondary or tertiary alkyl radical containing from 1 to 8 carbon atoms containing at least one nitrogen atom or substituted with a heterocycle containing at least one nitrogen atom and optionally substituted with an alkyl radical containing from 1 to 8 carbon atoms; and

R<sub>1</sub> which represents an aryl or aralkyl radical having an amine function, of the formula:



in which  $Z_1$  and  $Z_2$ , which is identical or different, each represents a linear, branched or cyclic alkyl radical containing from 1 to 8 carbon atoms, or  $Z_1$  and  $Z_2$  being optionally combined so as to form a heterocycle with the nitrogen atom.

26. (New) The method of Claim 25, wherein R1 is 3,4-pyridyl, 2-pyridyl, thiazolyl or piperidinyl.

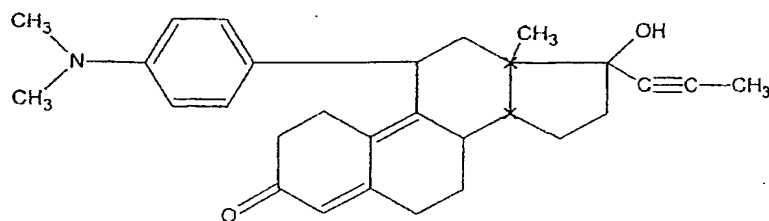
27. (New) The method of Claim 26, wherein  $Z_1$  and  $Z_2$  each independently represents a  $C_1$ - $C_4$  alkyl radical.

28. (New) The method of Claim 23, wherein  $Z_1$  and  $Z_2$  is each methyl.

29. (New) The method of Claim 16, wherein the group C=A in the 3-position represents an oxo group.

30. (New) The method of Claim 16, wherein B and C together form a double bond.

31. (New) The method of Claim 1, wherein a compound of formula (I) is 17 $\beta$ -hydroxy-11 $\beta$ -(4-dimethylaminophenyl)-17 $\alpha$ -(prop-1-ynyl)estra-4,9-dien-3-one of the formula:



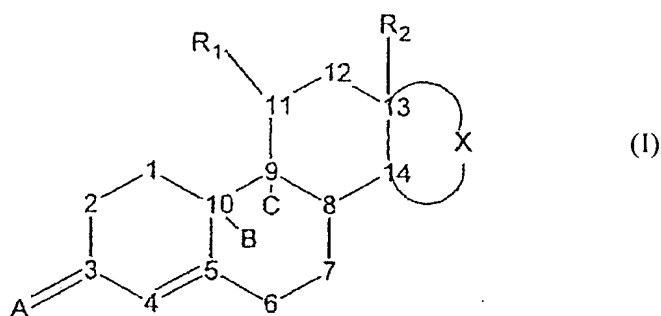
32. (New) The method of Claim 16, which effects treatment of tumors linked to hyperactivation of the Hedgehog pathway.

33. (New) The method of Claim 32, wherein the tumors are selected from the group, consisting of nervous tissue tumors (medulloblastomas, primitive neuroectodermal tumors, glioblastomas, meningiomas and oligodendrogliomas), skin tumors (basal cell carcinomas, trichoepitheliomas), muscle and bone tissue tumors (rhabdomyosarcomas, osteosarcomas) and tumors of other tissues (kidney, bladder).

34. (New) The method of Claim 16, which effects treatment of neurodegenerative-type pathologies.

35. (New) The method of Claim 16, which effects treatment of diabetes.

36. (New) A compound of the formula (I):



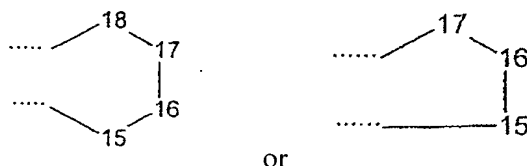
in which:

R<sub>1</sub> represents an organic radical containing from 1 to 18 carbon atoms, containing at

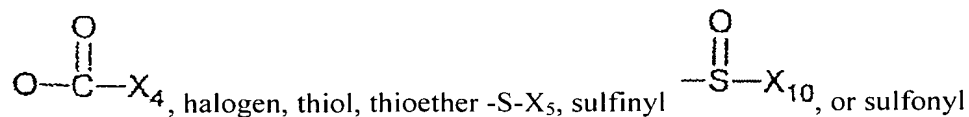
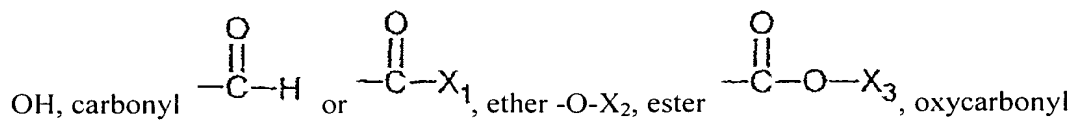
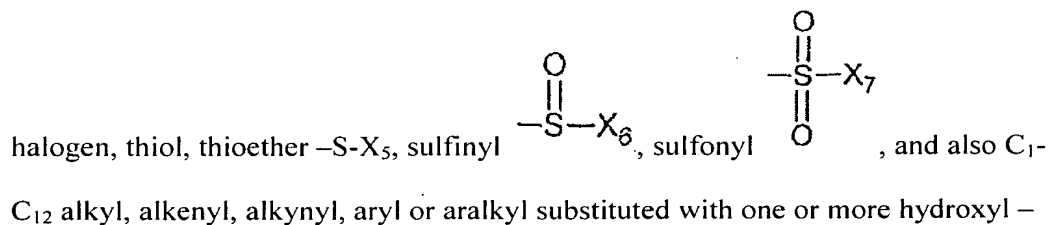
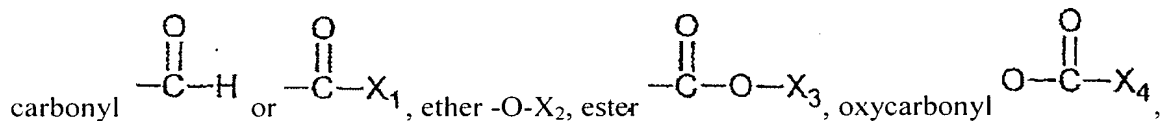
least one nitrogen, phosphorus or silicon atom, the atom immediately adjacent to carbon 11 being a carbon atom,

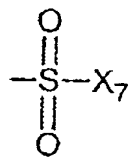
R<sub>2</sub> represents a hydrocarbon-based radical containing from 1 to 8 carbon atoms,

X represents:



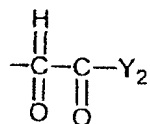
a residue of a saturated or unsaturated, pentagonal or hexagonal ring optionally substituted with one or more groups selected from the group consisting of the following radicals: C<sub>1</sub>-C<sub>12</sub> alkyl, alkenyl, alkynyl, aryl or aralkyl, hydroxyl -OH,





functions, wherein  $\text{X}_1$ ,  $\text{X}_2$ ,  $\text{X}_3$ ,  $\text{X}_4$ ,  $\text{X}_5$ ,  $\text{X}_6$  and  $\text{X}_7$  each independently represents  $\text{C}_1$ - $\text{C}_8$  alkyl,  $\text{C}_2$ - $\text{C}_8$  alkenyl or  $\text{C}_2$ - $\text{C}_8$  alkynyl groups, or  $\text{C}_6$ - $\text{C}_{15}$  aryl or  $\text{C}_6$ - $\text{C}_{15}$  aralkyl groups,

the group  $\text{C}=\text{A}$  in the 3-position represents an oxo group, which is free or blocked in the form of a ketal, an alcohol  $-\text{CH}-\text{OH}$ , ether  $-\text{CH}-\text{O}-\text{Y}_1$ , alkyl carboxylate

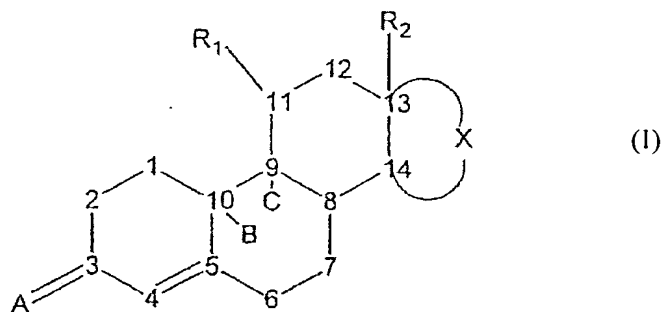


.,  $\text{C}=\text{NOH}$  or  $\text{C}=\text{NO}-\text{Y}_3$  group, or a  $\text{CH}_2$  group,  $\text{Y}_1$ ,  $\text{Y}_2$  and  $\text{Y}_3$  representing an alkyl radical containing from 1 to 8 carbon atoms or an aralkyl group containing from 7 to 15 carbon atoms, and

B and C together form a double bond or an epoxide bridge, or a salt thereof.

37. (New) A pharmaceutical composition, comprising:

a) one or more compounds of formula (I):

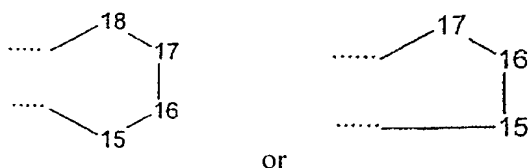


in which:

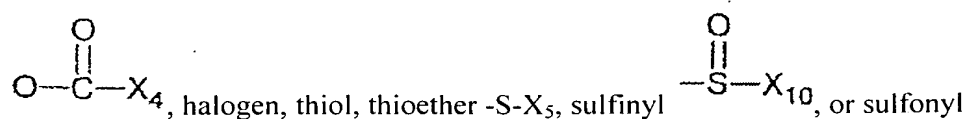
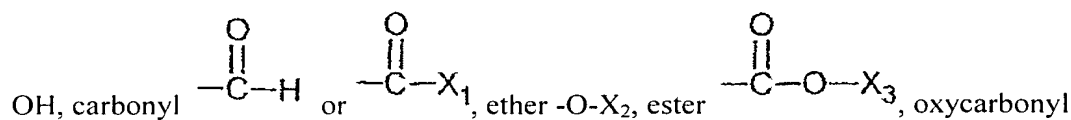
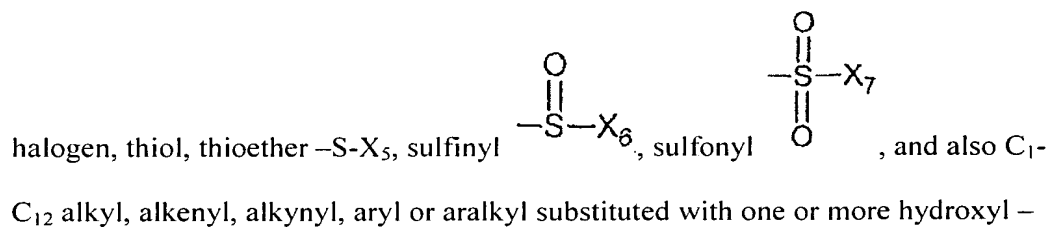
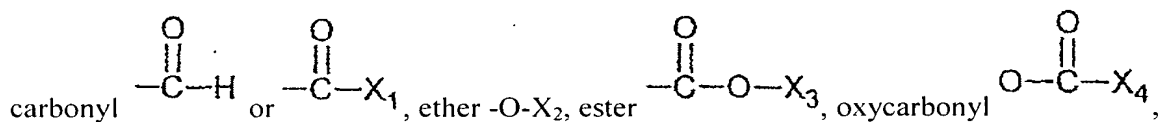
$R_1$  represents an organic radical containing from 1 to 18 carbon atoms, containing at least one nitrogen, phosphorus or silicon atom, the atom immediately adjacent to carbon 11 being a carbon atom,

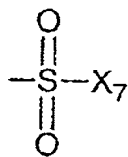
$R_2$  represents a hydrocarbon-based radical containing from 1 to 8 carbon atoms,

X represents:



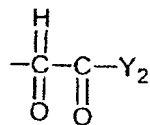
a residue of a saturated or unsaturated, pentagonal or hexagonal ring optionally substituted with one or more groups selected from the group consisting of the following radicals:  $C_1$ - $C_{12}$  alkyl, alkenyl, alkynyl, aryl or aralkyl, hydroxyl -OH,





functions, wherein  $\text{X}_1$ ,  $\text{X}_2$ ,  $\text{X}_3$ ,  $\text{X}_4$ ,  $\text{X}_5$ ,  $\text{X}_6$  and  $\text{X}_7$  each independently represents  $\text{C}_1$ - $\text{C}_8$  alkyl,  $\text{C}_2$ - $\text{C}_8$  alkenyl or  $\text{C}_2$ - $\text{C}_8$  alkynyl groups, or  $\text{C}_6$ - $\text{C}_{15}$  aryl or  $\text{C}_6$ - $\text{C}_{15}$  aralkyl groups,

the group  $\text{C}=\text{A}$  in the 3-position represents an oxo group, which is free or blocked in the form of a ketal, an alcohol  $-\text{CH}-\text{OH}$ , ether  $-\text{CH}-\text{O}-\text{Y}_1$ , alkyl carboxylate



,  $\text{C}=\text{NOH}$  or  $\text{C}=\text{NO}-\text{Y}_3$  group, or a  $\text{CH}_2$  group,  $\text{Y}_1$ ,  $\text{Y}_2$  and  $\text{Y}_3$  representing an alkyl radical containing from 1 to 8 carbon atoms or an aralkyl group containing from 7 to 15 carbon atoms, and

B and C together form a double bond or an epoxide bridge, or a salt thereof; and

b) a pharmaceutically-acceptable carrier.